963
52
3

STATISTICAL BULLETIN
Metropolitan Life Insurance Co.

VOL. XIII OCTOBER, 1932 No. 10

MORTALITY EXPERIENCE OF THE FIRST NINE MONTHS OF 1932

Every indication, up to the end of the third quarter of 1932, is that 1932 will be a record health year in the industrial populations of both the United States and Canada. The deathrate for three-quarters of the year among the many millions of Metropolitan Industrial policyholders was at the astonishingly low figure of 8.7 per 1,000. This is well below the previous minimum for the corresponding part of any year. All sections of the United States have shared in this excellent health record; and the picture is equally favorable in Canada. Furthermore, such data as are available for the population at large show that health conditions throughout 1932 have been unprecedentedly good. The year has been singularly free from widespread epidemics and from major catastrophes.

Noteworthy Improvement Among Insured Negroes

Among insured wage earners and their dependents, both white persons and negroes have shared in this excellent health record; but the improvement among insured colored persons has been greater than for the whites.

Excellent Record at All Periods of the Year

Health conditions have been excellent since the very beginning of the year. In January, for example, the deathrate was nearly 8 per cent. lower than the previous minimum for that month; the first quarter registered a lower figure than ever previously recorded for any winter season; the deathrates for the second and third quarters closely approached the previous low points. It becomes more and more evident that, throughout this country, and in Canada, the economic stringency has failed, so far, to affect adversely the health of the people.

Diseases Showing a Decline Since 1931

The mortality records for the principal diseases and forms of violence show that, with a few exceptions, the deathrates are either at or near the lowest points on record. The facts are so clear-cut that, three months before the close of 1932, no doubt remains that the year will register new minimal rates for tuberculosis, diarrheal complaints and conditions arising out of pregnancy and childbirth. Barring an influenza epidemic during the final quarter, pneumonia mortality also is sure to be lower than ever before. It is also extremely probable that new minima will be in evidence for typhoid fever, measles, diphtheria and accidents of all types, considered collectively. Still other conditions for which the deathrates are running more or less below those for the like part of 1931 are scarlet fever, whooping cough, influenza and respiratory conditions other than pneumonia.

Tuberculosis

The decline in the tuberculosis deathrate, as compared with the like period of 1931, is 6.9 per cent. Based on what has happened in the final quarters of other years, we may look forward to a tuberculosis deathrate, at the end of the year, not to exceed 71 per 100,000. This may be compared with 76.7, for 1931; 81.3, for 1930; and 114.2, a decade ago. A sharp drop in the mortality from this disease among insured negroes has played an important part in the decline.

Pneumonia at Its Lowest Point

The pneumonia deathrate is not only at a new minimum but has recorded a drop (16.6 per cent. in a single year) which is almost without precedent. Part of this decline is accounted for by a considerable decrease in the prevalence of influenza. Nevertheless, there are, every year, thousands of deaths from pneumonia in which influenza plays no part; and the major part of the decrease in pneumonia mortality, this year, has been due to lower incidence of fatal cases where influenza was not recorded as a factor.

Maternal Mortality Rate Again Improves

The fall in the deathrate for conditions incidental to pregnancy and childbirth has continued and this is one of the most encouraging developments of 1932. The figure, at the end of the year, should be well below the previous minimum.

Drop in Accidents and Automobile Fatalities

The accident deathrate is running lower than ever before. This is due, in part, to a decided drop in automobile fatalities; but reduced industrial activity during 1932 has also been an important factor. The deathrate for automobile accidents alone, has declined 10.4 per cent. from the figure shown for the corresponding part of 1931. Doubtless a drop in both commercial and pleasure traffic, affording fewer chances of accident, has played an important rôle in the decline. It is probable, however, that control measures, which are becoming more and more effective, have been a factor in reducing the automobile death toll.

Conditions Showing Increased Mortality Since 1931

The causes of death showing increased mortality in 1932 to date are cancer, diabetes, cerebral hemorrhage, organic heart diseases, chronic nephritis and suicides. The increases for cerebral hemorrhage and chronic nephritis are small; for the others, they are important.

Another Abrupt Rise for Cancer

There has been an unprecedented rise in the mortality from cancer, even exceeding that in 1931, when the increase amounted to 7.4 per cent. This year, up to the end of September, there has been a further increase of 9.6 per cent. Instead of the persistent, but slow rise experienced for years, we now have this sharp acceleration, with the probability that, by the end of 1932, we shall find the cancer mortality rate to have increased three-quarters as much in two years as it did in all the preceding twelve years back to 1919. This is only partly due to a change in the relative age distribution of our policyholders, whereby a little larger proportion is now in those ranges where cancer mortality is highest. The fact that no similar increases have been recorded for other diseases, which have their maximum mortality in the older ages, shows this clearly. The increase in cancer mortality in both 1931 and 1932 affected both white and colored policyholders.

New High Point for Diabetes

The diabetes deathrate has increased 8.6 per cent. in a single year. The mortality from this disease has risen continuously since 1924, and is now approximately 50 per cent. higher than it was eight years ago. Among the negroes insured in the Industrial Department of the Metropolitan, who are almost exclusively urban residents, the

Deathrates* per 100,000 Persons Exposed. First Nine Months of 1930, 1931 and 1932 Compared. By Color for Principal Causes of Death. Metropolitan Life Insurance Company, Weekly Premium-Paying Industrial Business.

Cause of Death	Deathrates per 100,000 Persons Exposed*					
	White			Colored		
	Jan.-Sept. 1932	Jan.-Sept. 1931	Jan.-Sept. 1930	Jan.-Sept. 1932	Jan.-Sept. 1931	Jan.-Sept. 1930
All Causes of Death	797.5	811.8	800.2	1440.1	1587.3	1560.7
Typhoid fever	1.4	1.5	1.6	2.4	5.1	5.1
Measles	2.3	4.0	3.7	1.0	2.1	2.5
Scarlet fever	3.3	3.6	3.0	1.1	1.7	.8
Whooping cough	3.4	3.7	4.7	3.9	3.5	5.3
Diphtheria	4.1	4.1	6.3	1.7	2.2	2.8
Influenza	16.7	20.0	12.6	38.7	58.4	39.1
Meningococcus meningitis	1.2	2.0	3.1	1.8	6.8	9.9
Tuberculosis (all forms)	56.8	58.6	64.3	193.7	227.2	227.2
Tuberculosis of resp'y system	50.0	51.8	55.7	172.2	199.8	197.6
Tuberculosis of the meninges, etc.	2.8	2.9	3.9	5.0	6.5	6.9
Other forms of tuberculosis	4.1	3.9	4.8	16.5	21.0	22.8
Cancer	89.8	81.9	77.2	96.6	89.0	80.5
Diabetes	22.4	20.5	18.3	24.8	24.1	21.9
Alcoholism	2.3	2.7	2.8	3.7	3.9	4.9
Cerebral hemorrhage; apoplexy	55.2	53.7	52.4	121.5	126.1	123.2
Organic diseases of the heart	144.8	137.1	131.7	254.0	264.2	259.4
Total respiratory diseases	69.7	82.3	82.2	129.7	162.0	159.4
Bronchitis	2.4	2.9	3.3	3.7	4.1	5.6
Bronchopneumonia	25.1	31.1	30.5	34.0	45.1	45.0
Pneumonia (lobar and undefined)	35.8	41.1	41.1	81.2	100.5	96.9
Other diseases of resp'y system	6.3	7.2	7.3	10.7	12.3	12.0
Diarrhea and enteritis	11.8	15.2	19.3	10.3	15.8	19.3
Under 2 years	8.9	12.4	14.9	4.2	8.4	11.2
2 years and over	2.9	2.9	4.4	6.1	7.4	8.1
Acute nephritis	3.1	3.4	3.2	10.5	12.2	14.1
Chronic nephritis	60.0	58.1	59.4	137.3	139.6	138.3
Total puerperal state	10.3	10.5	11.7	16.5	18.5	19.2
Total external causes	70.3	74.2	74.9	98.0	111.2	117.1
Suicides	11.4	10.3	10.1	7.6	6.7	6.7
Homicides	3.1	3.9	3.4	29.8	29.9	30.0
Accidental and unspecified violence	55.8	60.1	61.4	60.6	74.5	80.3
Automobile accidents	18.8	20.7	20.0	19.4	24.1	20.7
All other and ill-defined causes of death	168.7	174.7	167.6	292.8	313.7	310.8

*All figures in this table include insured infants under one year of age. The rates for 1932 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

diabetes deathrate runs higher than among insured white persons; but the increase among the negroes has not been quite as sharp as among the whites.

Heart Disease

There has been a rise (3.7 per cent.) in the heart disease deathrate; but this has been confined to the white policyholders, with the colored making a more favorable showing than in the like nine months of 1931 or 1930.

Suicide Increase

The suicide deathrate for the nine months period is 11.0 per 100,000, and the increase since 1931 amounts to more than 11 per cent. We shall record, this year, the highest suicide rate since 1915; but it is unlikely to exceed the figure for any year up to that time.

The Table on page 4 presents the deathrates among white and colored policyholders, respectively, for the first nine months of 1932, 1931 and 1930.

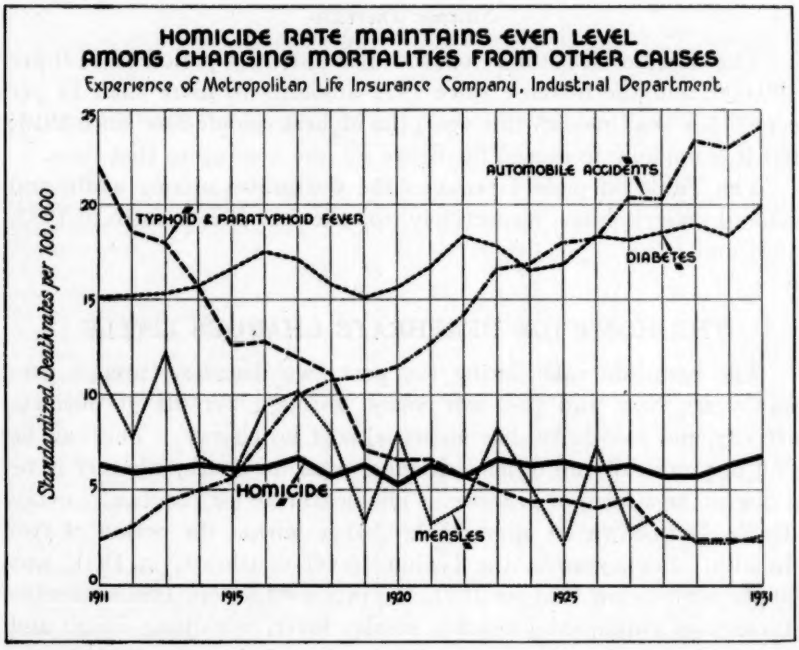
THE HOMICIDE DEATHRATE CHANGES LITTLE

The homicide rate during the past two decades, through pre-war years, war and post-war years, through periods of business activity and inactivity, has shown almost no change. This can be said of practically no other individual cause of death, whether it be a disease or a form of violence. The deathrate for practically every disease has shown an appreciable change within the period of two decades. For example, the typhoid fever deathrate, in 1931, was 90 per cent. below that for 1911; the rate for the four communicable diseases of childhood (measles, scarlet fever, whooping cough and diphtheria) declined to a point 80 per cent. below the 1911 figure; tuberculosis and pneumonia were brought down 66 and 46 per cent., respectively. On the other hand, diseases like cancer, diabetes and heart disease now register much higher mortality rates than were in evidence twenty years ago.

Even among the violent causes, other than homicide, there has been more or less marked change. Suicide, in 1931, showed a rate 23 per cent. below the 1911 figure. Deaths from drownings and burns have also greatly decreased; automobile fatalities have increased continuously up to 1931. Homicide is practically the only cause of death that has shown no upward or downward long-time trend.

Homicide, as might be expected in a well-organized society, has

never ranked among the more important causes of death. And yet every case is of interest, showing evidence of social disorder. It is, therefore, noteworthy that almost 1 per cent. of the deaths from all causes—either from disease or from violence—is due to homicide. Among Metropolitan Industrial policyholders it took more lives in 1931 than such diseases as typhoid fever, poliomyelitis, pleurisy, bronchitis, pellagra, erysipelas, or malaria. In 1931, the Metropolitan Life Insurance Company paid out $1,883,148 in settlement



of homicide death claims, or $1.20 out of every $100 paid for all claims. The economic and social loss, however, resulting from this cause of death cannot be so easily estimated.

One fact immediately stands out when one attempts to determine the reason for the small variation in the homicide rate as contrasted with that shown for most other causes of death; namely, that, whereas such diseases as typhoid, pneumonia or tuberculosis are each due to some specific bacterial agent, which runs rampant under certain more or less definite conditions, homicide results from many complex and interrelated factors. And these factors are, under present definitions, largely social rather than biological. Hence any interpretation of the causes for the stability of the homicide

deathrate must be arrived at only after extremely careful analysis and interpretation of the circumstances surrounding and leading up to these killings.

Since the influences causing homicide are social in nature, it might be supposed that various population groups would show different homicide mortality rates; and this is in part true.

While it is true that among negroes, as well as white persons, no significant trend in the homicide deathrate is shown, there have been greater year-to-year differences for negroes than for whites. While the mortality rate for white Metropolitan Industrial policyholders during the period 1911 to 1931 never rose above 4.6 or fell below 3.6, the rate for colored policyholders fluctuated from a maximum of 33.0, in 1924, to a minimum of 22.1 in 1920. The minimum rate for the colored group is seen to be almost five times as high as the maximum for the white. The figures shown here suggest that one element in homicide is a certain feeling of responsibility to family and community, and that the greater ability to visualize the possible consequences of the homicidal act presupposes a lower homicide deathrate among white persons.

Sex is a factor in homicide. Among both white and colored policyholders, the male deathrate is from three and one-half to four times that for females.

Social and economic levels appear to have some effect on the homicide deathrate, although the picture is not altogether clear. In all age-groups between 20 and 55 years, the white Metropolitan Industrial policyholders, during the five-year period 1927-1931, had a homicide deathrate much in excess of that for the Ordinary policyholders,* who enjoy, as a group, the better environmental conditions that go with a higher social and economic status. After age 55, the picture is reversed; but in the Ordinary, as well as the Industrial, the deathrate over two decades shows no significant trend—upward or downward.

It would appear that of all the humanly developed techniques, that of social adjustment alone has undergone little refinement. Great sums of money and boundless scientific effort have been available to combat preventable diseases like typhoid, pneumonia, tuberculosis and the communicable diseases of childhood. At the present time, also, heart disease and cancer are being thoroughly and widely studied in an effort to initiate a downward trend in the morbidity

*Includes small proportion of colored persons.

and mortality rates. But no equally well-directed effort is being made to check homicide.

The economic and social loss reflected in these unchanging homicide rates calls for careful study of the factors that cause one man to kill another. Effort should be exerted to undertake corrective measures comparable to those used in the control of malaria, typhoid and diphtheria. And similar efforts would probably bring forth just as successful results.

WET CLOTHING AND THE COMMON COLD

Whatever may be the ultimate decision with regard to the circumstances that lead to the development of the so-called common cold—whether it is proved to be always of infectious nature, or whether it is concluded to be sometimes the outward manifestation of a physiological reaction to unfavorable factors in our environment—there can be no doubt that epidemics of minor respiratory illnesses (colds and sore throats) are associated to a high degree with inclement weather.

That some colds in their acute stages are highly infectious is borne out by the common experience of "catching" one from a relative, acquaintance or traveling companion. But in addition to colds acquired in this manner, it is a very frequent occurrence to have a cold "come on" after exposure to rain or sleet. The proponents of the theory that all colds are infections explain the development of colds following such exposure, as due to the sudden "running amuck" of erstwhile harmless organisms, following a lowered resistance of the "exposed" individual. In support of this theory, they cite the example of the Eskimo, who although at times soaking wet for hours on end, is said never to get a cold unless it is brought to him by a voyager from a foreign port.

Whether or not Eskimos have colds at times other than immediately following the visits of ships from the outside world is not the question to be decided here. It is common experience that a stormy period is frequently followed by an outbreak of respiratory disorders. A study by Jordan, Norton and Sharp,* of the incidence of common colds among college students in Chicago, Galveston and Pasadena, revealed the fact that, in 64 per cent. of the colds reported, the students felt that physical factors—chilling, drafts, and wetting —were responsible, while infection was thought to be the cause in only 22 per cent. The authors observe that "while the statements

*The Common Cold. Jordan, E. O., Norton, J. F., and Sharp, W. B., *Journal Infectious Diseases*. 33:5, November, 1923.

of these students should be regarded rather as popular impressions than as scientific facts, it is difficult to avoid the conclusion that chilling of the body is really an important predisposing factor," and they conclude their report with the following statement: "Whether or not a cold is the result of a specific infectious process is unknown. It is clear, however, that outside influences, particularly those involving chilling of the body, may serve to induce a cold."

The findings of the New York Commission on Ventilation* in its studies among school children in Syracuse and in Cattaraugus County, New York, in 1926-1927, showed a highly significant correlation between respiratory illness and precipitation, whereas no relationship could be shown between the variations in respiratory illness and temperature, when precipitation was absent. Without going further, the lesson is obvious: keeping dry is an elementary precaution in avoiding colds.

But let us see if there is not a rational explanation of lowered resistance under such circumstances. A child who goes out in a storm without proper protection collects a certain amount of water in his shoes and clothing. If he has just had a good meal and is well nourished, during the time he is physically active, he generates enough heat from his food or stored-up energy to compensate for the extra demand which the evaporation of this water makes. At the end of his journey to school, his shoes and stockings may carry a large quantity of water. From a condition of marked physical activity, he becomes relatively quiet. His heat output decreases just at the time that evaporation of the water in his shoes and stockings—the drying process—calls for extraordinary quantities of heat. This unusual demand (for heat) comes at a time of decreased production and evidently places a strain on the body's heat regulating mechanism so great, at times, as to break down the ordinary defense, and a "cold" frequently follows.

Health officers can do much to reduce the incidence of colds and other respiratory illnesses in their communities through warnings in their bulletins and in the newspapers, pointing out the facts cited above, recommending the wearing of suitable clothing in inclement weather, and urging care to avoid chilling, no matter what the cause. School principals and teachers can also help in a practical way. In schools with regular gymnasium courses, which require each student to keep "sneakers" and a change of stockings at school, the substitution of these dry articles of clothing while wet shoes and stock-

*The Weather and the Common Cold. Duffield, T. J., *American Journal Public Health*, 19:1, January, 1929.

ings are drying, has given good results. Where such facilities are not available, illness and absenteeism can be reduced if pupils who come to school with wet feet are allowed to dry them over a heat source. This will avoid chilling, and therefore, will not tax the body heat regulating mechanism.

The annual toll of the common cold in discomfort, loss of time, cost of medical care and premature death is so great as to warrant every effort to reduce its incidence.

HEALTH RECORD FOR SEPTEMBER, 1932

In only one previous September (in 1922) was a lower deathrate registered than that of 7.7 per 1,000, which is the figure for this month in 1932. In the same month last year, the mortality rate was 8.0. The mortality during September showed improvement, as compared with the August 1932 record, throughout the United States; but in Canada there was a small increase. The September deathrate for most of the important causes of death showed no noteworthy change from the August figures. There were, however, fewer suicides and accidental deaths and a considerable increase in those from diarrheal complaints.

The deathrate in the general population of the large cities of the United States during September was 9.5 per 1,000 estimated population as compared with 9.3 in August, and with 10.2 in September 1931. Diphtheria, influenza, poliomyelitis and scarlet fever were more prevalent than in August, but there were fewer cases of measles, smallpox and typhoid fever. Comparison with September, 1931 shows that there was more illness in the same month of 1932 from influenza, measles and scarlet fever, together with lower morbidity from diphtheria, poliomyelitis, smallpox and typhoid fever.

Reported diphtheria cases in thirty-one states increased from 2,225 in August, to 3,666 in September, and reports from twelve states show an increase in influenza from 1,105 cases in August, to 1,648 in September. Forty-seven states recorded a considerable rise in poliomyelitis cases with 1,115 reports in September, as against 695 in August. The rise was fairly general throughout the country, but in Pennsylvania and New Jersey the increases were larger than in other states. Scarlet fever cases also showed a substantial increase during September, the states lying in the valleys of the Mississippi and Ohio Rivers being the principal ones affected. The smallpox situation in September was particularly favorable, as reported cases numbered only 104, against 202 in August.

The following table shows the mortality among Industrial policyholders for September, 1932; August, 1932, and September, 1931, together with the cumulative rates for the first nine months of each year.

METROPOLITAN LIFE INSURANCE COMPANY

Deathrates* per 100,000 for Principal Causes Premium-Paying Business in Industrial Department (Annual Basis)

MONTHS OF SEPTEMBER, 1932; AUGUST, 1932, AND SEPTEMBER, 1931

CAUSES OF DEATH	ANNUAL RATE PER 100,000 LIVES EXPOSED*				
	Sept. 1932	Aug. 1932	Sept. 1931	Cumulative January to September	
				1932	1931
TOTAL—ALL CAUSES	769.1	776.4	799.6	870.8	900.3
Typhoid fever	2.5	2.6	4.7	1.6	1.9
Measles	.3	.5	.4	2.1	3.8
Scarlet fever	.6	1.4	1.2	3.0	3.4
Whooping cough	2.6	3.1	4.1	3.4	3.7
Diphtheria	2.3	1.9	2.2	3.8	3.9
Influenza	3.7	3.9	4.5	19.2	24.4
Tuberculosis (All forms)	62.8	65.6	69.6	72.4	77.8
Tuberculosis of resp'y system	55.9	58.1	62.1	63.9	68.7
Cancer	90.9	88.8	79.6	90.6	82.7
Diabetes mellitus	19.4	19.9	17.8	22.7	20.9
Cerebral hemorrhage	54.8	52.8	56.0	62.8	61.9
Organic diseases of heart	135.5	135.2	130.0	157.2	151.6
Pneumonia (All forms)	29.1	28.7	32.3	67.2	80.6
Other respiratory diseases	6.5	7.6	7.6	9.3	10.8
Diarrhea and enteritis	24.7	17.8	32.6	11.6	15.3
Bright's disease (Chronic nephritis)	60.3	60.6	61.4	68.8	67.4
Puerperal state	11.7	10.3	9.8	11.1	11.4
Suicides	9.8	11.3	10.5	11.0	9.9
Homicides	6.2	6.7	6.6	6.1	6.8
Other external causes (excluding suicides and homicides)	64.7	69.8	63.5	56.3	61.8
Traumatism by automobiles	21.8	21.1	25.7	18.9	21.1
All other causes	180.6	187.9	205.1	190.5	200.4

*All figures in this table include insured infants under one year of age. The rates for 1932 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

Correspondence on the subjects discussed in these BULLETINS may be addressed to: The Editor,

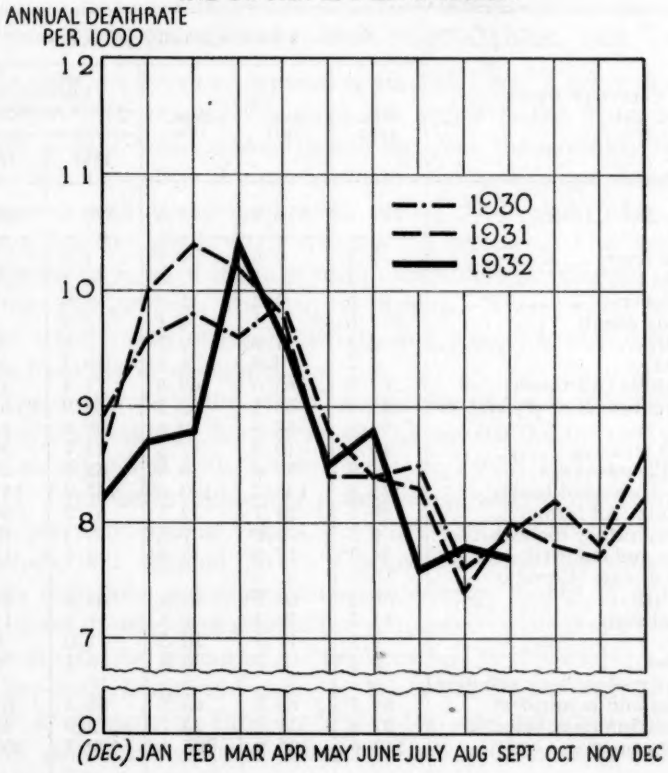
STATISTICAL BULLETIN,

Metropolitan Life Insurance Company,

1 Madison Avenue, New York City

DEATHRATES
FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE CO.
INDUSTRIAL DEPARTMENT



1930	9.6	9.8	9.6	9.9	8.8	8.4	8.5	7.6	7.9	8.2	7.8	8.6
1931	10.0	10.4	10.2	9.8	8.4	8.4	8.3	7.4	8.0	7.8	7.7	8.2
1932*	8.7	8.8	10.4	9.6	8.5	8.8	7.6	7.8	7.7			

* *Rates for 1932 are provisional*

METROPOLITAN LIFE INSURANCE COMPANY PRESS
NEW YORK, U.S.A.
78156